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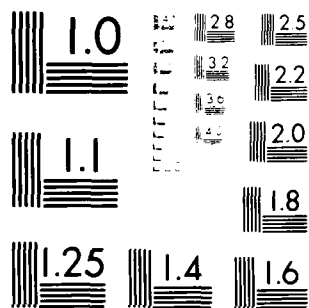
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Kevin N. Lewis

March 1983

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BALLISTIC MISSILE DEFENSE, ICBM MODERNIZATION, AND SMALL STRATEGIC ATTACKS:

OUT OF THE FRYING PAN?

Kevin N. Lewis

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THE ANTIMISSILE DEFENSE DEBATE REEMERGES

After a decade of relative dormancy, the question of whether to deploy antimissile defenses has reemerged as the subject of intense debate. Several factors have stimulated widespread new interest in active defense; perhaps most important of all is our concern with an evolving strategic environment in which it is increasingly difficult to ensure an adequate degree of survivability for such important targets as ICBMs (at least in politically acceptable ways).[1] In a break with traditional practice, for instance, some recently proposed MX basing concepts have more or less required some kind of defensive overlay, both to disrupt carefully coordinated Soviet attacks and to raise the costs to the USSR of striking first to the point where the post-exchange counterforce balance is not stacked severely against us.[2]

[*] The views expressed in this paper are the author's and do not necessarily represent those of Rand or any of its sponsors. For their comments on various drafts of this paper, the author is indebted to Thomas Brown and Russell Shaver. The reader unfamiliar with some acronyms used in this paper can find a glossary on page 39.

[1] Concern with the long-term implications of highly lethal offensive systems is said by some to have been a major stimulus behind the President's 23 and 31 March 1983 calls for futuristic strategic defensive systems. For a variety of reasons, certain kinds of undefended ICBM deployment options open to the USSR--mobility, concealment, etc.--are not feasible basing choices in this country.

[2] The recent Scowcroft Commission report has recently changed somewhat the context of this ongoing debate. The Commission asserts that MX deployment is so necessary for political and strategic reasons that near-term MX basing in vulnerable MINUTEMAN Silos is tolerable. However, the issue of MX survivability is bound to return; and even if

But even if active defense does turn out to be the most cost-effective way to enhance ICBM survivability over the near- and mid-term, we must still compare the benefits of defensive deployments with a number of problems that might materialize if the USSR were to follow suit with a new ABM of its own. To date, most such evaluations have focussed on major SIOP-level operations.[3] To the extent that the implications of an ABM competition for limited nuclear employment policy have been discussed at all, the political turmoil that might follow from the neutralization of the independent European deterrent arsenals and other diplomatic complications have been in the spotlight.

While such effects obviously will figure centrally in our program deliberations, this paper will suggest that any near-term U.S. ABM decision should pay equal heed to another consideration: the consequences of an expanded Soviet ABM system for U.S. and NATO strategy and planning for small, theater conflict-oriented strategic attacks. [4] Since ballistic missiles are usually the instrument of choice for limited strategic strikes, Soviet ABM deployments around military and certain other targets would almost by definition throw a wrench into the

it does not, a wave of popular interest in new strategic defenses may lead to calls for active defense of several kinds, including BMD.

[3] Typical questions for analysis include the costs to both sides of defeating the other's defenses, synergisms between new ABM deployments and existing strategic defenses in place, etc.

[4] In this paper, I will concentrate solely on the role that U.S. central strategic forces might play in deterring a theater war and, if necessary, helping to see fighting through to an acceptable conclusion. To be sure, shorter ranged tactical nuclear forces (such as atomic artillery projectiles and nuclear weapons delivered by tactical aircraft) play an important role in NATO's defense strategy. However, since central forces--used in a limited attack role--are essential to the sound coupling of forward theater defense to the American nuclear deterrent, the neutralization of our ability to carry out small strikes could have profound results. Therefore, this paper focuses exclusively on this issue.

Western option planning works. In fact, depending on the nature and extent of the defenses fielded, the West's current strategy of "Flexible Response" could be undermined, with serious military and political results.

True, the collapse of part of our flexible response strategy is just one among many issues to be considered in our ultimate decision on missile defense. Moreover, we can influence only some of the most important variables: in particular, the Soviets may decide to deploy new missile defenses no matter what we do. Even so, some probability exists that a Soviet decision to abrogate current ABM treaty restrictions will be driven by a U.S. decision to do so. Given the strategic importance of our limited attack capability, if there is even a modest likelihood that the U.S. might be able to contribute to the postponement of a missile defense race, then continuing restraint of certain defensive initiatives may be a wise U.S. policy over the next few years. The following sections will attempt to show just how adverse the military and political repercussions of new missile defense deployments could be and, accordingly, how restraint in this area should be a leading determinant of our ultimate ICBM modernization plan.

THE EVOLUTION OF A STRATEGY OF FLEXIBLE NUCLEAR EMPLOYMENT

To set the stage for an evaluation of the effects of antimissile defenses on current strategy, it is useful to ask what role limited nuclear attacks play in the West's overall deterrent concept. For at least two decades, most U.S. (and many Allied) strategists have believed that credible deterrence best rests on the availability of nuclear attack plans that would not strike a full roster of enemy targets. A U.S. general war plan containing only a single all-out blow against a

full spectrum of Communist Bloc military, economic, and leadership targets may have been tolerable in the 1950s when the USSR could not retaliate utterly against the U.S. homeland and when the political consensus to devote sufficient resources to conventional defense was nowhere in sight. But by the late 1950s--with survivable Soviet intercontinental forces on the horizon, with the occurrence of a series of limited military crises, and with the partial discrediting of the dogma that non-nuclear defense could never be a feasible Western defense option--it began to seem to many that a new nuclear strategy was needed.

New nuclear plans, some suggested, should be designed in part to support specific military objectives, as opposed to attempting to deter Communist aggression by threatening to obliterate Soviet bloc homelands should certain "trip-wires" be sprung. A number of analysts pointed out that a massive deterrent strategy increasingly lacked credibility; moreover, such proposed solutions to the emerging nuclear dilemma as a splendid counterforce capability, leak-proof active and civil defenses, and tactical nuclear forces (in lieu of conventional capabilities) were condemned as inappropriate. The Kennedy Administration agreed with this school of thought. As Defense Secretary Robert McNamara noted:[5]

In our best judgment, destroying enemy forces while preserving our own societies is--within the limits inherent in the great power of nuclear weapons--a not wholly unattainable military objective. Even if very substantial exchanges of nuclear weapons were to occur, the damage suffered by the belligerents would vary over wide ranges, depending upon the targets that are hit. If both sides were to confine their attacks to important military targets, damage, while high, would nevertheless be significantly lower than if urban-industrial areas were also attacked... In the light of these findings the United States has developed its plans in order to permit a variety of strategic choices. We have also instituted a

[5] Remarks by Secretary McNamara, NATO Ministerial Meeting, 5 May 1962, (the "Athens Speech"), p. 3 (Declassified, FOIA).

number of programs which will enable the Alliance to engage in a controlled and flexible nuclear response in the event that deterrence should fail.

The transition from Massive Retaliation to a strategy based on employment flexibility has spawned a number of painful political and military controversies. But eventually, and despite the fact that it has never been clear exactly how the use of nuclear weapons could reliably support practical politico-military ends (particularly a speedy end to fighting on acceptable terms), the need for strategic flexibility nonetheless came to be widely accepted, if only as a kind of insurance policy. For as repellent as the notion of "nuclear warfighting" may be, in consideration of the alternatives, logic must triumph over our visceral impressions. While the heart may reject the desirability of any kind of strategy that could include attempts to use nuclear weapons in a controlled way, the head tends to prevail, since if worse were to come to worst in a major conventional or tactical nuclear war, the President simply must have choices other than to say either "stop" or "go" to the strategic forces.[6]

In the early 1960s, then, a few so-called "flexible options" were drawn up. For the most part, these divided up our former single-shot war plan into a series of interlocking attacks aimed at several kinds of targets. As noted above, one of the primary aims of a partitioned war plan was to provide a chance to stop a nuclear war before all the damage of which both sides were capable had been done. The new war planning guidance also distinguished, for some planning purposes, among the

[6] For an expanded discussion of these points, see the present author's Nuclear Weapons Policy, Planning, and War Objectives; Toward a Theater-Oriented Deterrent Strategy, The Rand Corporation, Santa Monica California March 1982.

several potentially hostile countries in the overall war plan, so that the U.S. could be reasonably selective about whom it went to war against. Finally, and consistent with the new strategy of increased flexibility, options were designed that anticipated a broader range of war scenarios.

Despite the introduction of a new integrated war plan with multiple options, U.S. targeting staffs continued throughout the 1960s to program large numbers of warheads against fairly comprehensive target sets. In 1974, for example, Defense Secretary James Schlesinger reported that the SIOP still consisted of a collection of

massive preplanned strikes in which one would be dumping literally thousands of weapons on the Soviet Union... With massive strikes of that sort, it would be impossible to ascertain whether the purpose of a strategic strike was limited or not. It was virtually indistinguishable from an attack against cities.

Indeed, the smallest option available during this period is said to have included some one thousand weapons.[7]

Policy initiatives and analytic work begun in the late 1960s eventually led to new SIOPs that included increasingly refined counter-military options. In addition, small counter-military strike options were approved for non-SIOP-committed U.S. strategic forces.[8] And SACEUR's NATO nuclear plan began to feature some small attack packages

[7] See James R. Schlesinger, "Hearings on Strategic Doctrine," U.S. Government Printing Office, March 1974, p. 9. The 1,000 figure appears in Desmond Ball, "Deja Vu: The Return to Counterforce in the Nixon Administration," California Seminar on Arms Control and Foreign Policy, Santa Monica California, December 1974, pp. 12-13.

[8] See Henry S. Rowen, "The Evolution of Strategic Nuclear Doctrine," in L. Martin, ed., Strategic Thought in the Nuclear Age, Johns Hopkins Univ. Press, Baltimore Maryland, 1979. Nuclear forces held by the various nuclear CinCs and not committed to the SIOP had occasionally been programmed for what used to be Regional and Limited Nuclear Options (RNOs and LNOs), and are today known as "Non-SIOP Options" or NSOs.

of its own, known as SEPs.[9]

At the same time, pertinent new military capabilities were also acquired, primarily as a result of our MIRV programs. The "fractionation" of the U.S. TRIAD, the lower yields of many U.S. weapons, new reconnaissance and related capabilities, and the much improved accuracy of parts of the U.S. MINUTEMAN force complemented the ongoing development of a strategy of selective employment. Indeed, simply the availability of more sophisticated forces to some extent motivated greater exploration of new option possibilities, but other factors were at work as well. In particular, much of the heightened interest in employment flexibility since the early 1970s can be attributed to anxieties over the implications of emerging U.S.-Soviet nuclear parity at all levels.[10] If both sides could respond more or less in kind at all points in a conflict, the West's always questionable ability to control escalation would be even further weakened. Given the disastrous consequences of runaway escalation, it would, many thought, be prudent to insert as many extra rungs as possible into the hypothetical "escalation ladder" said to connect the onset of a superpower conflict with a total catastrophe. Within this framework, the execution of tailored options would hopefully force the Soviets to reappraise their inimical goals by "dramatizing the (escalatory) risks of continued conflict" without doing so much damage that a nuclear free-for-all would ensue.

[9] A SEP is a Selective Employment Plan. It is, in effect, a limited option within the corpus of NATO's Scheduled (nuclear) Strike Program.

[10] See James R. Schlesinger's FY 1975 and FY 1976-77 Annual Defense Reports, pp. 3-6 and pp. 1-13--1-17 respectively, for the official contemporary assessment of the implications of the changing balance.

At the same time, some analysts contended that small attacks should accomplish useful military tasks, thereby further disabusing our adversaries of the notion that they could gain their campaign goals at an acceptable price. In short, deliberately constrained attacks would try to influence the progress of some aspect of an ongoing battle as well as signal the West's resolve to go as far as was necessary to terminate a war on acceptable terms. Such attacks would clearly have to be carefully planned in order to avoid uncontrollable escalation, produce predictable military results, and signal Allied aims in the clearest manner possible.

Thus has selective nuclear employment become a pivot of Western defense over the past decade and a half.[11] But not only has NATO's entire defense strategy--as it relates to forces and planning for conventional, limited nuclear, and general nuclear war--come to revolve around the twin devices of appropriate military response and threats of further escalation. In addition, if there exists a "balance" of limited nuclear attack capabilities, parity or, ideally, a NATO advantage must exist for two reasons. The first relates to the theoretical deterrent role small nuclear attacks are supposed to play in compensating for the Warsaw Pact's conventional superiority, especially in the most demanding planning scenarios. Second, on the assumption that the Soviets will start a war to achieve some set of tangible military ends, small yet effective theater-oriented attacks would probably be the best deterrent to continuing Soviet aggression and, possibly, unchecked escalation.[12] In this way, a strategy of flexible nuclear employment might at the same

[11] For an informative discussion on the theater-based component of this evolution see J. M. Legge, Theater Nuclear Weapons and the NATO Strategy of Flexible Response, The Rand Corporation, R-2964-FF, March 1983.

[12] For elaboration on this point consult Walter Slocombe, "The

time enhance deterrence and, should deterrence fail, serve as an insurance policy against extreme results: namely conventional fiasco and global holocaust.

THE DIFFERENCE BETWEEN PLANNING FOR LARGE AND LIMITED ATTACKS

As the U.S. and its NATO allies assimilated the flexible response strategy, planners on both sides of the Atlantic developed substantially richer option menus. What has made some of the more recent options (especially U.S. central strategic ones) quite different from those of the 1960s and early 1970s is, among other things, their very small size. As Secretary Schlesinger noted in 1974, "what the [refined strategy] does is give the President...the option of limiting strikes down to a few weapons." [13] It has also been said that some offensive packages consist of just "three to five weapons." [14]

As new plans became operational, the ICBM began to emerge as the primary system for limited strategic contingencies for several reasons. First, the mix of good accuracy, high penetrativity, and low yield of MINUTEMAN III meant that option objectives could be destroyed with relatively high confidence and reduced collateral damage. Second, missile weapons could be on target promptly and so could exploit ephemeral tactical situations and/or instantly communicate the aims of a U.S. strike to Soviet leadership. Third, the MINUTEMAN III force could be closely controlled and retargeted as needed, thanks to such technical

Countervailing Strategy," International Security, Vol. V, No. 4, Spring 1981.

[13] Cited in Aerospace Daily, 12 April 1974.

[14] See Benjamin Lambeth, Selective Nuclear Options in American and Soviet Strategy, The Rand Corporation, R-2035-DRE, December 1976, p. 28.

advances as the Command Data Buffer. Fourth, the launch of a single MINUTEMAN III would not place other weapons at risk, nor would there be the same footprinting and discard problems that could afflict sea-based MIRVed missiles. Though some of these attributes were not unique to the land-based missile leg of the U.S. TRIAD, their combination in the MINUTEMAN III was exclusive. Proposals were even advanced to set aside and further modify some MINUTEMEN as an elite Limited Nuclear Option force.

Just as important as such hardware advances was the dissemination of revised employment planning guidelines. In preparing limited nuclear options, different principles and rules than those that would ordinarily govern the creation of large strikes obviously must be used. Since operational targeting plans are the "bottom line" of any nuclear strategy, it is worthwhile to review the different objectives and characteristics of small and large attacks.

A large attack seeks to inflict some overall statistical level of damage on the enemy in order to destroy some important aspect of his ability to sustain his war effort. Damage levels are commonly described in terms of the fraction of all targets (or fraction of the value represented by a collection of targets) surviving or destroyed.[15] Large attacks are evaluated by such statistical means for a variety of reasons. First, in a massive nuclear strike, so much damage would be done that it might not matter much whether particular targets survived.[16] Second, consistent statistical measures of success make

[15] More precisely, we describe in terms of an index known as "damage expectancy" (DE) the net probability that targets will be damaged (defined in terms of types, as well as degrees, of damage).

[16] It makes little difference, for instance, whether some tank plant escaped destruction if the personnel, electric power, rail transit, and raw materials needed as inputs and supporting infrastructure had been decimated. True, there are some crucial

it easier to coordinate thousands of weapons arriving on a highly disciplined schedule. Third, this approach derives from traditional techniques for assessing the often poorly understood effects of large-scale bombing campaigns. Fourth, in a two-sided general war, our communications, reconnaissance, and other capabilities may degrade to the point where we would not be able to put to much practical use a deluge of attack assessment and other data. All in all, in planning major attack options, it is not usually very important to know if we can hit particular targets; rather, we are interested in whether we can destroy certain fractions of selected target types.

In limited attack planning, however, the situation is very different. The role that general purpose forces can play in an ongoing fight would not have been dissipated in an orgy of nuclear violence. Enough eyes, ears, and other resources would be intact that we would continue to have considerable understanding of, and control over, the ongoing course of events. Since some hope would remain that war might be ended short of mutual disaster, it might very well pay to spare many kinds of targets, whether the purpose in so doing was to demonstrate restraint or hold valuable "hostages."

We clearly would not, under these circumstances, unleash a small attack in order to accomplish some grand strategic design. Instead, we would deliberately constrain the attack to serve always limited--but often conflicting--ends. On the one hand, our strike should do

exceptions to this rule. Obviously, we would have to be certain that we destroyed specific targets when we attack command and control, attempt to suppress defenses, and so on. Furthermore, there may be important "bottlenecks" or "Achilles' heels" among the list of both military and war supporting targets.

something useful.[17] Since we would be doing our best to, say, defeat a Soviet invasion somewhere, strategic strikes might seek to support our conventional forces. On the other hand, a small attack has to be unambiguously seen as such. Yet once a decision to use nuclear weapons in support of theater objectives is made, there are understandable upward pressures on attack size. After all, if the destruction of five air bases or divisions would shore up an unravelling theater position somewhat, a hammer-blow against fifty could potentially decide the war. As their rhetoric would lead us to believe, moreover, if there is a chance that the Soviets would respond to a deliberately limited strike with a "no holds barred" counter-blow, then cannot a strong case be made that NATO should, at the very least, get in the first comprehensive attack?

Such tendencies obviously must be suppressed or opportunities to retard escalation may be lost. In fact, very firm ground rules for small attack planning must be laid out. Arriving at such rules is clearly as arbitrary as it is essential. For instance, those rules will have to reflect a veritable multitude of unpredictable scenario features. Suspended over many other uncertainties are the facts that we have always lacked a very clear understanding of the practical side of "nuclear warfighting" and that we may not have very much time to modify canned plans as the specifics of a limited use contingency became clear.

[17] Some commentators have advocated "symbolic" or "demonstration" nuclear strikes. However, simply shooting at an irrelevant target (say, an iceberg) to "make a point" could be quite a risky action. Such a stunt probably would not demonstrate resolve, but instead may indicate recklessness (shaking our allies' confidence, most likely), hint that we do not have the stomach for seeing the land campaign through to a successful conclusion, and provide an excuse for the Soviets to respond with a much larger retaliatory blow in the aftermath of "provocative" or "irresponsible" U.S. first use.

And to make things even more confusing, our guidance must also anticipate possible Soviet responses to an attack.[18]

Here, then, is a grim picture indeed. No amount of preparation could ever change the fact that planning for selective nuclear employment is fraught with major uncertainties and grave risks. The uncertainties are so vast that it is by no means apparent that the right constellation of factors would ever combine to favor resort to small attacks. But if worse comes to worst and NATO's default options were reduced to touching off a global nuclear melee or accepting conventional defeat, we have to act on the assumption that small strikes can be carried out effectively. As Secretary Schlesinger put it:[19]

Even if there is only a small probability that limited response options would deter attack or bring a nuclear war to a rapid conclusion without large-scale damage to cities, it is a probability which, for the sake of our citizens, we should not foreclose.

Like it or not, we would, under those awful circumstances, have to adhere faithfully to strict ground rules for the design and execution of small nuclear attacks.

HYPOTHETICAL GROUND RULES FOR LIMITED OPTION PLANNING

What ground rules might guide planning for small attacks? Any number come to mind, but three seem especially noteworthy: (1) limited attacks should not rely on defense suppression for their success; (2) the size and effects of an attack must be formally constrained; and (3)

[18] Since, as noted above, the Soviets have tended to deprecate "limited nuclear employment" as a bourgeois self-delusion, the West undeniably runs the risk that its attempts at discriminating nuclear use would precipitate disaster.

[19] Annual DoD Report for FY1976-77, op cit, p. II-7.

limited attacks must have a high probability of accomplishing their intended purpose. Note that these rules may, depending on the specifics of the scenario, interact considerably. They also are by no means always internally consistent guidelines for planners.

Small Attacks Should Not Depend on Defense Suppression

Currently, major attack options include provisions for destroying key Soviet strategic defenses to improve the penetration chances of other U.S. forces. Such an attack, presumably aimed against key interceptor bases, SAM sites, GCI centers, radars, and similar targets, may account for a nontrivial portion of a massive U.S. strike.[20] Be that as it may, I stipulate here as a small attack ground rule the proviso that limited options should not rely for their success on active defense suppression.

Such a rule seems logical for several reasons. Given the depth and complementarity of Soviet and Pact air defenses, to open up bomber penetration corridors might require a substantial barrage, especially if the defense seemed able to disperse or net together the myriad redundant resources that are likely to be present in areas of great military interest. Defense suppression may also betray the aims of an ongoing U.S. option, while possibly denying the USSR enough early information about an attack to accurately interpret U.S. intentions. Critical timely intelligence about whether precursor suppression attacks had succeeded might not be available with adequate reliability. Finally,

[20] Defense suppression attacks were said by Alton Quanbeck and Arch Wood in 1976 to use between 200-400 warheads, and by Congressman Les Aspin in 1978 to use from 400-500. See A. Quanbeck and A. Wood, Modernizing the Strategic Bomber Force, Why and How, The Brookings Institution, Washington DC, 1976, p. 67, and Congressman L. Aspin, "The Mineshaft Gap Revisited," Mimeo, Office of Cong. Aspin, p. 10, December 1978 (reprinted in Congressional Record, 15 January 1979).

skittish Soviet commanders might view piecemeal suppression attacks in support of sequential small options as a series of "on the house" raids or probes before a massive blow, increasing the likelihood of accelerated escalation or Soviet resort to a launch on warning policy.

Given current Soviet anti-bomber defenses, we might surmise that ballistic missiles remain the instrument of choice in limited attacks against targets much inside the periphery of the contiguous Soviet bloc.[21] Accordingly, the presence of a large Soviet ABM system would almost by definition change the way we approach small attack planning.

Formal Constraints on Attack Size and Outcomes Must be Observed

It is impossible to say before the fact just how big an attack must be to no longer be considered "limited" (in the then-applicable context). The enemy's perception of the attack's purpose, the timing of the attack, corresponding communications of nuclear intent (CNI), and other factors will be more important determinants of the Soviets' reaction than simply the size of the strike (measured by numbers of delivery vehicles, weapons, megatons, etc.).

Even so, it is clear that some formal guidelines must be prepared for day-to-day use by operational planners. The bases for these numbers are many--and often highly classified. Specification of maximum "small

[21] While Soviet defenses have considerable offshore reach in the form of long-range SAMs, very long-range interceptors, and naval SAMs, bombers can stand-off and launch ALCMs safely: indeed one of the stronger arguments for replacing AGM-86B ALCMs--now being deployed--with an Advanced Cruise Missile is to increase stand-off distances or to allow better coverage from similar stand-off points. Furthermore, penetrating bombers could probably attack most coastal targets depending on the local defense situation. Bombers would probably also be capable of carrying out options in areas of lesser threat density--for instance Vietnam, Cuba, or territory in the Mideast held by the USSR but not protected by sophisticated strategic defenses. It remains to be seen how this situation will change with the arrival of the B-1B.

attack" size must, for instance, draw on sensitive intelligence data on the ability of Soviet sensors to size and characterize an incoming raid. U.S. option planning should also be mindful of Soviet damage assessment capabilities. It might sometimes pay, for instance, to deliberately spare local communications nodes to permit accurate reporting to Moscow that a U.S. attack had indeed been limited.

Other sorts of constraints can be conceived, but for the sake of routine planning, all relevant indications would be lumped together to yield arbitrary numerical top-line restrictions.[22] For the purposes of this paper, let us assume that 150 warheads (not by any means a tiny attack) is the largest strike that we think can fall under the rubric of a "limited option." (The reader can select another number, but none of the following conclusions will vary substantially as a result of an analogous alternative ceiling.)

The weapons in a small nuclear option must also be laid down so as to avoid inflicting excessive or inappropriate collateral damage. Most important, we should try to avoid the indiscriminate destruction of population and leadership. Thus, some very important military targets would undoubtedly reside within "target exclusion" areas. In other cases, we might send smaller weapons, offset aim-points from targets, or change heights of burst (HOBs) in order to hold down collateral damage. Note that in most, if not all, cases we would sacrifice some degree of attack effectiveness for the sake of reduced collateral damage.[23]

[22] Other factors than sheer size might constrain attack design. We might, for instance, be interested in launcher purity; depending on the capabilities of Soviet sensors, we might even want to launch our MINUTEMEN from selected wings so that the USSR will be even more confident that the attack is a deliberately limited one.

[23] Certain other specialized exclusions come to mind. We might, for instance, want to avoid destroying nuclear power plants and other sites with a potential for regional environmental catastrophe (biological warfare plants, dams, etc.). We might also avoid destroying facilities of extraordinary cultural or political value.

Finally, let me reiterate the assumption that most of our options will ordinarily be aimed at militarily significant targets. As suggested above, the decision to launch a small nuclear option would probably be made in light of a deteriorating situation in NATO or some other vital theater. Under the circumstances, a nuclear blow should communicate to Soviet leadership our intention to see fighting through to an acceptable conclusion, come what may. The best way to do so would be to concentrate on target packages that, if destroyed, could appreciably influence, ideally in short order, the Soviets' estimates of the likelihood of achieving their hostile aims. Hence, attacks against many remote targets may be ruled out, because of delays in the onset of effects.

Limited Attacks Must Have a Very High Likelihood of Success

The most important ground rule to be applied to limited option planning is that an attack should have a very high probability of accomplishing its intended mission. This does not require us to build options with precise yet arbitrary aims (for instance, moving the FEBA ten kilometers back or cutting Frontal Aviation sortie production by 50 percent). Rather, we simply require that, whatever the purpose of the option, we should be very confident that the attack will produce predicted results--or put in more technical terms, we should realize very high DEs on all the enemy targets we attack.

There are excellent reasons for this particular ground rule. Given the fact that neither side has much practical experience with the "full up" employment of modern strategic systems, both may understandably be inclined to derive important inferences on the basis of the other side's

early use of its nuclear forces. Here, we should avoid advertising our strategic arsenal in a bad light. If a U.S. limited attack failed in a profound way, it might buoy up Soviet confidence and it would definitely undercut ours.

Moreover, a reasonably successful attack is vital if the Soviets are to recognize our aims: if every other warhead arrives and the target set is a varied one, our strike may make no sense. Preserving high DEs on targets also may help to restrict collateral damage for if a weapon fails to destroy its target it may be because it has fallen in a regrettable adjacent place.[24] Finally, we should avoid launching a limited attack unless we are quite sure that it would produce a military and/or political payoff commensurate with the grave risks involved.

CONSEQUENCES OF SOVIET ABM DEPLOYMENTS ON THIS SCHEME OF OPTION PLANNING

Taken together, these ground rules probably limit significantly the scope of allowable limited nuclear options. For the time being, it would seem that targets in or near cities or far removed from the front, extremely hard installations, highly proliferated and/or redundant assets, or moving forces spread out over a large area probably will not normally qualify as options. But crucial line of communication nodes, pipelines, airfields, depots, and combat formations massing for breakthrough operations or concentrated as a result of interdiction or logistics failure would often be attractive and "legal" strategic targets under our ground rules.

[24] Note that too many weapons might arrive successfully; considering the facts that winds in Europe are generally Westerly and that military and civilian concentrations in Eastern Europe are heavily collocated, we could face a heightened collateral damage danger or convey the wrong message. Hence good predictability, and not just mission success, is required.

Subject to the spirit of the three ground rules, we can proceed to sketch out the consequences of Soviet missile defenses for small ballistic missile options. It is useful to begin with a broad brush statistical portrayal of the issues. Figure 1 shows how ABM can influence the number of missile weapons required to destroy a target given a required probability of success. A few curves are displayed: they are of the format K_{xx}/I_{yy} , where the probability that a single offensive shot will, in the absence of any defense, kill its target is $0.xx$, and the probability that the defense will shoot down the attacker is $0.yy$. We see that, for low required damage expectancies, results are not very sensitive to the presence of defenses. However, the curves tend to turn upward sharply when, as is specified by the third ground rule, our desired probability of kill is high.

To focus on this phenomenon, Figure 2 shows the relationship between offensive and defensive performance when a very ambitious DE (0.90) is demanded. If offensive probabilities of kill decline (a result of target hardening, missile unreliability, reduced yield, offset weapons or nonoptimal HOBs, etc.) and/or if defensive Pks improve, the number of weapons required to generate desired high DEs can rise precipitously. If the defense's leakage rate is on the order of one half, the number of high quality offensive weapons required can even quadruple. When a relatively poor U.S. showing is expected, required attacking numbers only double: but because the doubling can add so many weapons to a single target package, one would suppose that such numerical compensation might sometimes lead to option disqualification under our small attack top-line rule.

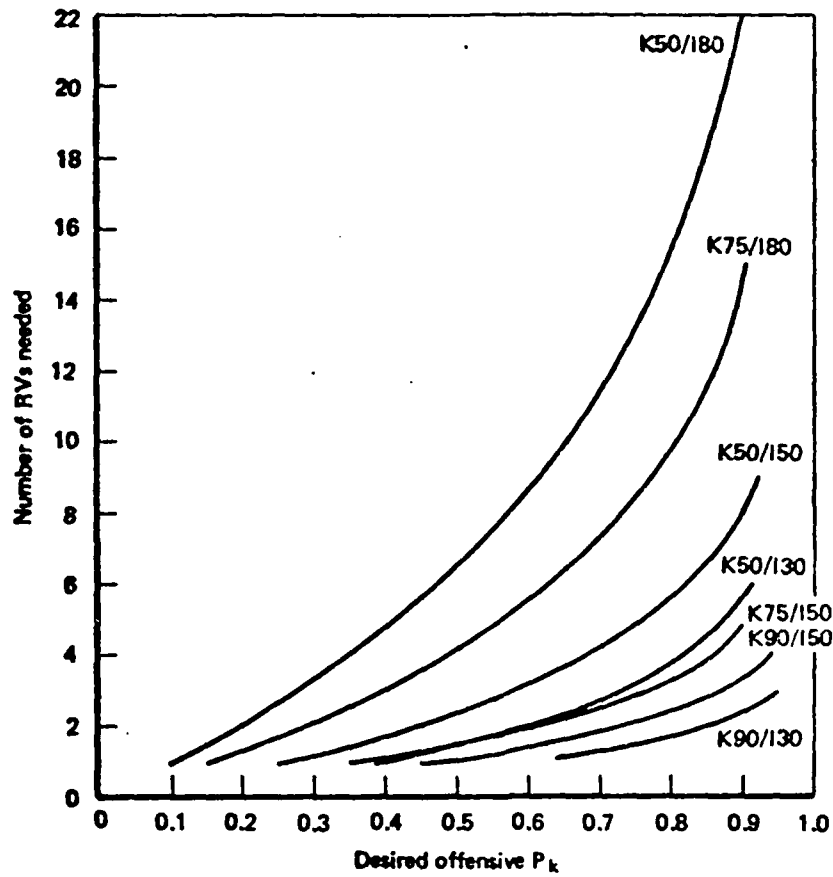


Fig. 1- Effect of ABM on point target coverage
(K #/I # = offensive probability of
kill/defensive probability of kill)

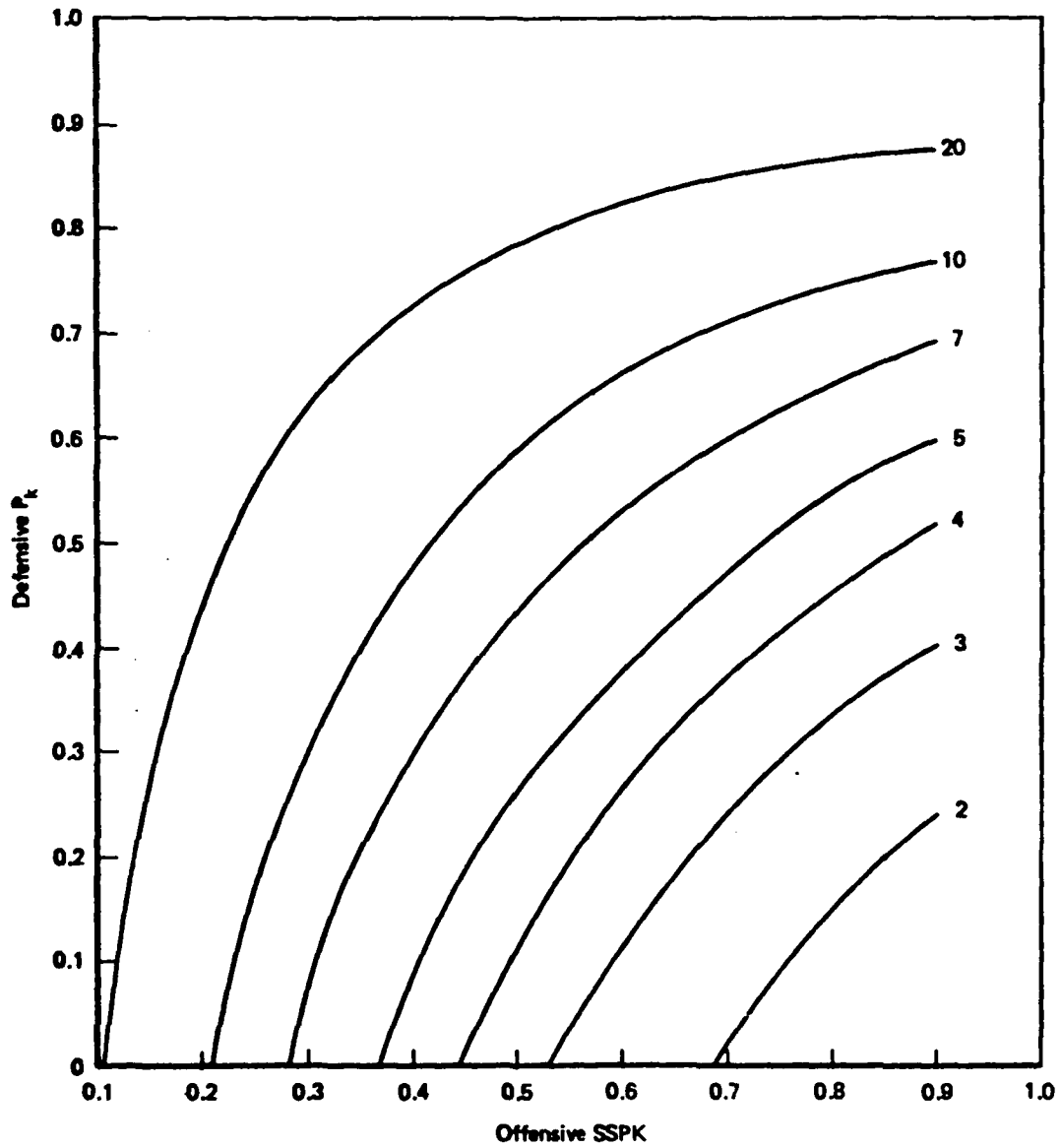


Fig. 2 — Number of weapons required to destroy a single target with probability = 0.90
(Given offensive and defensive performance)

For high required DEs, in short, our ability to carry out small missile attacks can disappear abruptly in the face of reasonably competent ABM defenses. Figure 3 shows how options can be disqualified as a function of reduced U.S. probability-to-penetrate performance. Given an overall option ceiling of 150 reentry vehicles, and a required DE against each targeted installation of 0.90, we see how missile defenses compress the domain of allowable options. Three leakage rate curves (100 percent--i.e. no defense, 50 percent, and 25 percent) are shown; given a combination of U.S. SSPK and a target package size, an option is prohibited if it falls below the leakage curve selected. Figure 3 suggests that even modest defenses can foreclose many U.S. small attack options--unless attack size top-lines are adjusted substantially upward or required DEs are lowered significantly.

Barring such adjustments, one of the most important effects of Soviet missile defense deployments would be to drive us toward options built around relatively small target sets. Even when targets are hard to destroy and the defense is fairly effective, we can tolerate the presence of an ABM system when there are only a few targets in the package. Even so, our limited option menu might be a rather sparse one, for in a large-scale war it might be hard to find very many very small target packages the destruction of which would be either worth the escalation risks assumed or likely to yield significant results.

Much more important, the restriction of our option coverage to veritable handfuls of aim-points would deprive us of the flexibility on which our entire limited employment strategy depends. To best deter the Soviets, we need to be able to carry out meaningful limited attacks that

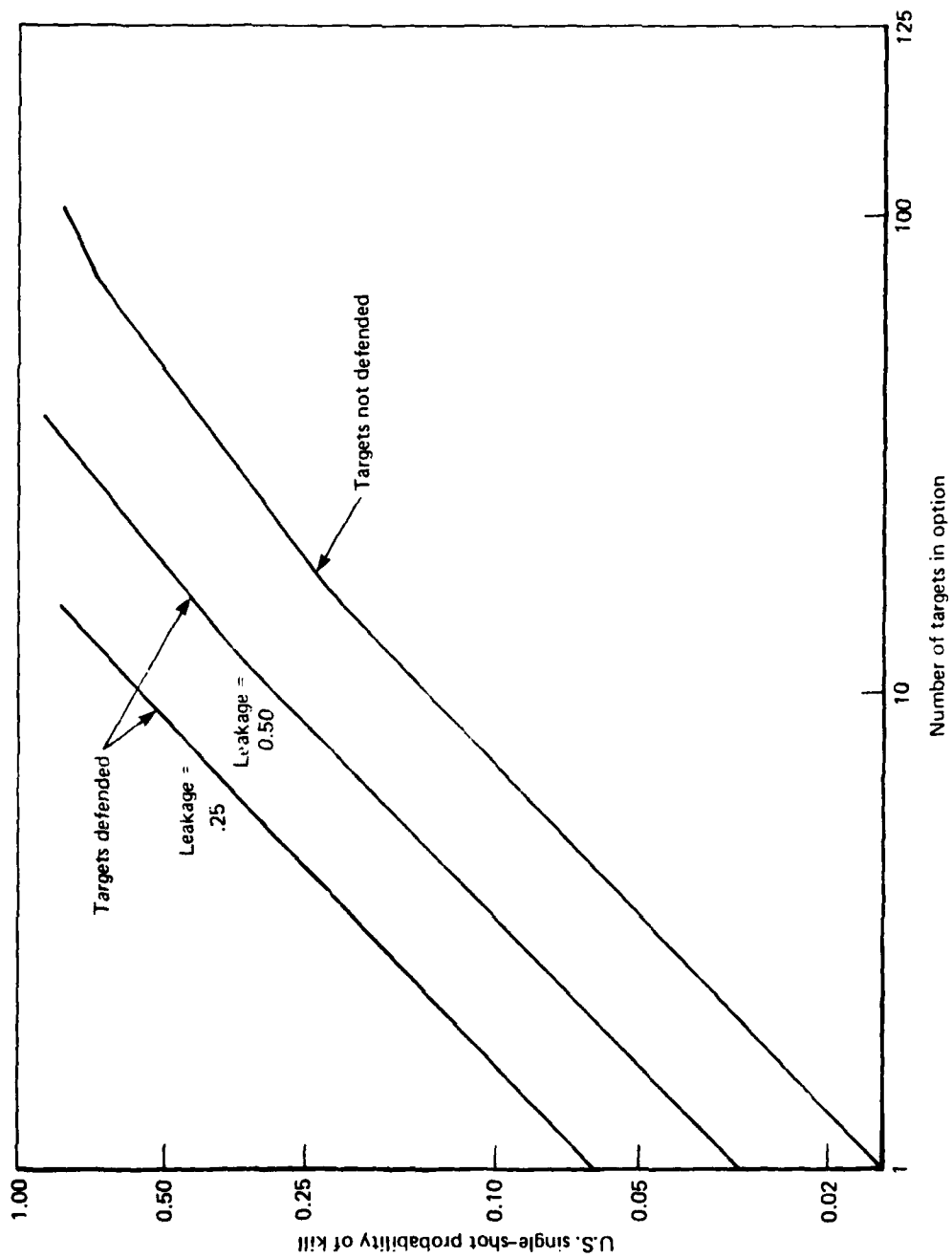


Fig. 3 -- Disqualification of different sized options as a function of defensive performance

accomplish useful goals and indicate our resolve to do whatever is necessary to end fighting on acceptable terms. In some cases, attacks on only a few targets may just be the best way to make these points, but in other cases, larger strikes (involving from a few dozen to, in this case, 150 weapons) may be needed. Under the circumstances, to be able to attempt only very size-constrained attacks is tantamount to basing a strategy almost entirely on the unproductive and dangerous expedient of symbolic and demonstrative attacks.

Another response to the appearance of a Soviet ABM would be to enhance U.S. offensive performance. This, however, is a problem of many troublesome dimensions. Improving U.S. missile capabilities across the boards will inevitably be a politically difficult, expensive, and lengthy effort. At the same time, the USSR would presumably strive toward better defensive performance (either with improved systems or by allocating multiple shots to each attacking warhead). Indeed, given the increased difficulty of key portions of the Soviet target base (as a result of mobility, hardening, concealment, etc.) simply to remain where we are--defense or no--will, over time, require more, and higher performance, warheads than have been available lately.

The reader might contend that Soviet ABM systems could never achieve the sorts of performance levels that would compel the U.S. to revise its limited option planning in any major way. True, if Soviet defenses remain downright incompetent (leakage rates in excess of, say, 70 percent), we would lose little sleep over them. However, we would not, one supposes, be inclined to dismiss Soviet missile defenses until we understood them very well; and actual Soviet capabilities may never be well known in peacetime with very much confidence. Even if the

Soviets tested their systems extensively, cover and deception techniques could deny us critical knowledge about true defense characteristics. Given the requirement for high confidence in small attack planning, such uncertainty would probably inspire our planners to err on the side of caution and be at least as conservative in their planning as they might be if defensive capabilities were presumed a priori to be good.[25]

WHAT SIZE SOVIET ABM DEPLOYMENT WILL AFFECT U.S. SMALL ATTACKS?

By this brief discussion it is clear (barring extraordinary disparities in the performance of both sides' forces) that, say, just several hundred ideally located ABM launchers could disqualify perhaps a large percentage of U.S. options. But how sensitive is this assessment to the siting and range of Soviet ABMs? Obviously, a scattering of interceptors would not bother us, especially if they were short ranged ones. But as the number of interceptors and/or their range increases, how fast is our penetration problem compounded?

Two of the most important determinants of this problem from a U.S. limited option planner's perspective are Soviet defensive priorities and interceptor range. The USSR clearly will not defend every possible target. A number of installations might be "non-targets" at the time nuclear attacks would probably arrive. Other targets would be within obvious exclusion zones. We can, of course, never know for sure what defensive priority the Soviets would assign to their various military assets or what scenarios they use for planning, but to get a ballpark estimate of defensive needs let us simply assume that the USSR is

[25] In major option planning, we can, obviously, compensate for sources of uncertainty like this by adding weapons to a target package. Given the natural conservatism of our war planning approach, for instance, one might speculate that Moscow is going to be worse off after a nuclear war on account of the presence of a missile defense system.

interested in defending an even 1000 targets which are uniformly distributed over Eastern Europe and the USSR's Western Military Districts. If we take that total surface area to be a square, we can make a crude estimate of the number of sites and weapons needed to defend, let us say, at least 90 percent of those targets. Table 1 gives order of magnitude estimated requirements for launch sites, given various interceptor ranges.

From the vantage point of a U.S. small attack planner, it seems prudent to assess the strategic consequences if the USSR deploys missiles of relatively long range. In fact, a number of factors other than caution support this assumption. In so doing, Soviet sensor, command, and related infrastructure requirements would be eased. With a longer range ABM, a layered defense concept--a favored Soviet approach--is easier. Furthermore, fairly long range interceptors would more efficiently defend against the large Eurostrategic threat azimuth, and would probably be somewhat more effective against maneuvering and other advanced threats. Because incoming raid size would not be a serious problem in a limited attack scenario, a short engagement distance (to compensate for system overload in the process of decoy discrimination)

Table 1

BACK-OF-THE-ENVELOPE SOVIET MISSILE DEFENSE REQUIREMENTS

Approximate Interceptor Range, kilometers	Number of Discrete Defensive Sites	Hypothetical Number of ABMs per Site
200	30	30-35
100	85	10-12
50	275	3-5
20*	1000	1-2

[* Limiting case: all targets individually defended]

is not a critical defense attribute. As defense suppression is generally disallowed, the Soviets could count more on powerful tracking and battle management radars.

Based on the back of the envelope data presented in Table 1, to defend on the order of 1000 Western area targets, the USSR might deploy 150-250 interceptor sites equipped with 50-75 km range interceptors or 25-50 sites mounting 150+ km interceptors. Not every target in a complex would be attacked in each option, but let us assume that the Soviets program one interceptor for each priority target. Here, the Soviets might have a reasonably formidable small attack defense with only 4 or 5 medium-range or 15-35 long-range interceptors per site, (600 to 900 missiles overall), a deployment that does not defy imagination. Any number of analytic excursions beyond this very casual sketch are possible; my point here is only to suggest that, from the perspective of a Western small attack planner, bothersome operational conditions might emerge when interceptor deployments number in the hundreds, not thousands.

Another question of interest from an offensive planner's point of view is how much limited fighting might precede escalation to more intense exchanges in which the strategic restraints called for by the limited employment doctrine would be invalidated. Now, some observers contend that the use of any number of nuclear weapons would inevitably precipitate holocaust; others allege that many hundreds or even thousands of weapons could be expended in a limited nuclear campaign. Though it is impossible to say for sure, it is not unreasonable to assume again that the cumulative weapons use by either side in the

strictly limited phase of a nuclear conflict would probably run into the hundreds, as opposed to thousands. The points made earlier about the size of a reasonably effective Soviet anti-option defense still would seem to apply, even for a multi-volley limited nuclear campaign.

All things considered, it is not outrageous to suppose that the sensible siting of just a few hundred long-range interceptors could seriously disrupt the United States' freedom to shoot limited options into areas of special military interest (such as the Kola Peninsula or Baltic or Black Sea littorals) or that a one or two thousand interceptor deployment might neutralize U.S. missile options aimed into an entire theater of operations. Barring a high-confidence intelligence bonanza, moreover, this would seem to be the case even if Soviet systems did not work very well. Regrettably, deployments on this scale are not at all implausible--as the scope of the present Soviet strategic defense effort dramatically attests.[26] Though anti-missile weapons are perhaps more expensive on a "flyaway" basis than some other strategic defensive systems, the additional outlays needed to support a fielded ABM are not wildly out of line with demonstrated Soviet budgetary and doctrinal priorities.

OTHER MEASURES TO MAINTAIN FLEXIBLE RESPONSE EVEN WITH NEW ABM DEPLOYMENTS

The degradation of our ability to carry out limited attacks as described above does not rule out the possibility that viable alternatives to current policies, systems, or tactics may exist. If the effects of Soviet ABM could be so liquidated, the U.S. could have its

[26] For instance, the Soviets currently deploy more than 2600 strategic air defense radars and more than 10,000 strategic SAM rails (not to mention thousands of specialized air defense aircraft, tactical SAMs, and naval SAMs).

cake and eat it too: we could deploy BMD as needed while retaining intact the Flexible Response strategy. However, it may very well be the case that suitable and timely alternatives can not be found.

The most simple candidate anti-ABM "countermeasure" would be to amend the ABM Treaty. Suppose that the number of interceptors allowed could be increased from 100 to, say, 300 or 400. Since few Soviet ICBM silos are located in the far Western USSR, and since we are probably ill-advised to shoot limited options into the Moscow metropolitan area under any circumstances, a continuing restriction on defensive coverage to an ICBM wing or an NCA would probably serve our purposes.

There is, unfortunately, almost no reason to believe that such an amendment could be successfully negotiated. The USSR has revealed that its defensive interests extend to a broad range of military targets, Command and Control nodes, and cities, not strategic offensive launchers. This is consistent with long-standing Soviet doctrine and their concern with the small arsenals of Britain, France, and the PRC. Moreover, the Soviets do not, at least over the near term, really need to defend their silos against U.S. missile attack. If and when a substantially more capable U.S. prompt counterforce threat comes on line, the Soviet Union could select undefended survivability options, particularly ICBM mobility.[27] Even were the USSR to buy a BMD system of its own, moreover, the Kremlin probably would not be very interested in such a slight Treaty change since, for one thing, the USSR's silos are spread out over vast areas and effective BMD would require thousands of interceptors. And even if the USSR had a "Dense-Pack" of its own to

[27] Apparently, the Soviets have already invested in this hedge. See Robert Berman and John Baker, Soviet Strategic Forces, The Brookings Institution, Washington, D.C., 1982.

defend, why should it ratify an amendment that benefited so disproportionately the United States? All in all, it does not seem reasonable to hope for such a tailored Treaty adjustment.

Another way around a Soviet ABM deployment would be to revise the basic ground rules for limited attack planning. Yet the only rule that can probably be changed without totally compromising our current strategic philosophy of limited employment is the restriction on defense suppression. If the U.S. was able--subject to collateral damage and sizing constraints--to neutralize pertinent defense sites, small attacks could ride through uninterrupted.

Unfortunately, this approach too seems to be saturated with difficulties. An ABM site usually would protect itself as a first priority: hence, our attack would have to either exhaust the defense or knock out key radars and control centers. But either tactic would drive up raid size (at differing rates, depending on the number and range of interceptors and extent of overlapping defensive coverage). We might also confront mobile defenses and netted control centers, and some suppression attacks may be prohibited if targets were in exclusion areas. Other objections could be listed--all in all, fairly strict active defense suppression prohibitions are likely to remain in force.

One possible technique that holds out some promise would be to generate soft kills of ABM systems. Precursor bursts to interfere with radars could in principle defeat long-range or terminal-only interceptors, but among other things this tactic overlooks the prospect of layered defenses, increases the chances that the USSR will misinterpret the size and aim of an attack, and relies on highly unpredictable intelligence and nuclear effects data. Therefore, this

probably is not a good solution. Perhaps selective jamming of ABM system radar components could help the necessary warheads get through. But again, the offense necessarily finds itself at an inherent disadvantage.[28] In any case, and regardless of the technical possibilities, such a highly sophisticated and often clandestine measures-countermeasures race would be marked by great uncertainty, and that development is contrary to our requirement for sufficiently high confidence in the outcomes of limited attacks.

Now consider some operational means for defeating an ABM system in a small attack context. One would assign portions of the limited attack mission to air-breathing vehicles that would rely on altogether different means to penetrate Soviet defenses. At first glance, the prospect is daunting: the Soviet anti-aircraft net is formidable and is constantly being improved. However, new possibilities--in low observables, cruise missile, and ECM technologies, among others--hold out some hope that limited numbers of vehicles could penetrate a stiff defense reliably. But many such advances might not come on line until the 1990s, perhaps years after the fielding of a first generation extended Soviet ABM.

A number of other problems also remain which probably relegate the air-breathing leg of the TRIAD to a fairly minor role in small attack planning over the near-term. It is clearly advantageous to swiftly transmit the aims of a small attack to Soviet leadership, as the effects of options might be diluted or misunderstood otherwise. Even with measures to enhance the "promptness" of bombers (such as airborne

[28] For instance, ground based systems would not be constrained by the same size, weight, and power restrictions that would heavily influence the design of onboard or other ballistic front-end electronics packages.

alert), however, weapons might still be hours from target when the Soviets discovered they were being attacked. Moreover, even totally successful penetrations might divulge key operational techniques, ECM and other technical specifications, and tactics that could make life much less pleasant for subsequent bomber and ALCM waves.

Future technological possibilities notwithstanding, the most important injunction against the use of particularly bombers in small options, of course, has been and will remain for some time the attrition risk. Manned aircraft not only have to penetrate to targets, they have to recover successfully, which, given extended low altitude exposure to alerted, unsuppressed defenses, a paucity of recovery bases, and, perhaps, disrupted tanker support, yields a set of thorny operational problems. The critical question of confidence in individual sortie success looms; while we might be more or less confident that a certain percentage of bombers or cruise missiles would reach their targets, estimating which specific Soviet installations would be hit is a different matter altogether. All in all, airbreathing force options should probably be confined for the near-term to accessible (probably naval and littoral) targets, or (in the case of cruise missiles) to targets that can be struck with some delay and risk of attrition in a meaningful limited attack context.

Now there is no doubt that over the long run, technical and conceptual advances could open up new possibilities for manned aircraft in the limited employment role. Technological advances and strategic imperatives--especially the need to strike imprecisely located targets--may in fact combine to revive a central role for manned strategic aircraft in limited strategic war. But these developments are, at best,

beyond the near-term planning horizon. By the same token, future ballistic missile technologies might make it possible to carry out limited attacks against some kinds of targets despite very capable defenses. (Improvements to missile front ends to enhance penetration prospects include RV hardening and maneuverability.) Yet again, the possibilities here seem to be relatively limited, especially over the short run.

As a final alternative to current ICBMs in a limited role, strategic targeteers can take greater advantage of the inherent flexibility of submarine-launched missiles. For instance, some SLBM trajectories might fall outside of Soviet anti-ICBM system parameters, and flying missiles on depressed trajectories we might also degrade defensive performance. Some of these capabilities are, however, not now available. In any case, submarine-launched missiles are not a very attractive limited attack vehicle over the near-term; among other things, it is inherently difficult to communicate with submerged SSBNs, we are understandably reluctant to expose a submarine by launching only a partial boatload of missiles, and we would probably prefer to reserve such securely based weapons for more grave general war contingencies.

CONCLUSIONS AND IMPLICATIONS FOR CURRENT U.S. POLICY

The current Western strategy of Flexible Response represents a delicate balancing of the various interests and concerns held by the Allies on both sides of the Atlantic. The West's ability to launch small nuclear attacks--including attacks by U.S. central strategic systems--against a full range of militarily relevant targets currently is a keystone of the Flexible Response concept. To erode that strategy by undermining even in part our limited strategic attack capability

could lead to a number of potentially severe political and military problems. For this reason, great caution is warranted as we consider certain strategic policy issues, most notably, whether to include active defense as a component of some follow-on U.S. ICBM system configuration.

Since ICBMs probably will remain the instrument of choice for limited strategic attacks over the near-term, it could very well be the case that even a fairly modest new Soviet ABM deployment could jeopardize our limited employment capability. Unfortunately, constraints on the azimuth of the ICBM threat to the USSR, the extended flight times of U.S. land-based missiles (compared to some INF and SLBMs), and other factors would combine to render U.S. land-based missiles incapable of some, perhaps many, limited employment missions should new Soviet ABM deployments take place. There are, moreover, few timely alternatives to our land-based missile force when it comes to our ability to execute small strategic attacks. Finally, while predicting the nature of an ABM/ICBM countermeasures duel is beyond the scope of such a brief assessment as this, one might suppose that advantages gained by either the offense or defense will be partial, ambiguous, ephemeral, and, above all, subject to unacceptable uncertainty. In short, we should accept the fact that a vigorous ABM competition would adversely affect our limited employment capability for years to come.

Hence, we face a dilemma regarding the role and nature of our future ICBM force. On the one hand, force structure planners have been frustrated in their repeated efforts to find--and perhaps more important, to sell to Congress and the public--a permanent home for the MX missile.[29] On the other hand, an ABM competition that could lead to

[29] The deployment of the MX in MINUTEMAN silos, recommended by the Scowcroft panel, is considered an interim basing solution. As many members of Congress have noted, funding for full procurement has not yet

the loss of one of the most attractive features of the ICBM would be virtually guaranteed if the U.S. were to abandon existing Treaty limitations by deploying a BMD ring around new or existing ICBMs.[30] To reconcile this dilemma, we must make two estimates about the future strategic world and one determination about U.S. strategic priorities.

The first estimate is whether a follow-on U.S. ICBM basing system is bound to require active defense. Our approach to this issue has to date been strongly shaped by the unspoken but apparently generally accepted requirement that our initial basing solution for a fully deployed follow-on ICBM be viable over the life of the system. On account of the difficulties involved in designing such a system, the basing question has come to turn instead on political points (currently, the need to deploy even a highly vulnerable system in order to achieve a START treaty). But it has not yet been demonstrated that BMD should be a part of our basing system for any mix of new ICBMs. It is especially unclear whether BMD efforts (beyond the low-level technical demonstrations needed to discourage any Soviet expectations of possibly achieving some kind of "break out" advantage) are needed in the near-term.

The second estimate is whether the U.S. can, by a number of steps (including deferring some of its own choices), make it more likely that Soviet missile defense deployments will occur later rather than earlier. Now it might be argued that the odds of influencing certain forms of

been approved. That approval could be tied directly to the selection of a suitable basing system.

[30] It is nothing short of ironic that the basing mode designed to assure the survivability of the leg of the TRIAD most suited for flexible employment could inadvertently lead to the failure of this strategy.

Soviet behavior are negligible; certainly no one would argue that the USSR can be prevented from going ahead and deploying an ABM system of considerable size if the Kremlin wants to. But given the present strategic balance, it is not unreasonable to suppose that a Soviet decision to act earlier rather than later may very well be strongly influenced by actual or anticipated U.S. defensive deployments.[31] By the same token, a number of U.S. options exist to delay, if not prevent for all time, Soviet deployment of expanded missile defenses. The U.S. need not, in other words, prepare to fight fire with fire. Rather, by concentrating on such programs as enhancing future ICBM penetration performance (for example, through pen aids, RV hardening, and maneuverable RVs), the USSR may be deterred from making major defensive investments (at least in a first generation large scale ABM systems).

How one fashions these estimates is largely a function of one's priorities when it comes to the importance of being able to accomplish different strategic missions. Assuming that no politically acceptable undefended follow-on ICBM concept can be found--in other words, that active defense is essential to the survivability of the land-based leg of the TRIAD--we have to determine whether the overall costs to our small attack strategy of potentially "premature" ABM deployment exceed the gains (measured largely in terms of increased U.S. force survivability) achieved thereby.

[31] After all, the Soviets have no present need for a BMD defense of their strategic forces, they probably harbor few delusions about removing the threat posed by U.S. forces in an all-out retaliatory regime, and they respect U.S. technological potential. Moreover, on the premise that they enjoy some margin of conventional superiority, they can, perhaps, leave the burden of first nuclear use to the West, while retaining a full ability to retaliate should such use occur.

In this paper my own ordering of priorities has been based on the assumptions: (1) that, to a much greater extent than the Soviets, the United States will probably need a powerful and credible flexible response capability throughout the 1980s; (2) that the ability to carry out small attacks is at least as important over the near- and mid-term as the survivability of a force optimized to enhance a not inconsiderable ability to execute major, SIOP-level nuclear strike options; and (3) that timely and competitively cost-effective counterforce substitutes to a defended follow-on ICBM deployment can be found. Now all of these assumptions might be rejected by those who prefer to view nuclear war in terms of a so-called "bang-bang" massive exchange scenario and who believe that an actively defended MX system makes the most strategic and budgetary sense. However, if the reader does acknowledge the importance of flexible response capabilities or can visualize alternatives to active defense as a means of assuring some reasonable measure of land-based missile survivability, then forestalling new Soviet ABM deployments becomes a relatively high priority strategic objective over the next few years.

Not only would we reap a number of political, budgetary, and other dividends if we are successful in deferring an ABM competition over the near term. We might also be able to postpone an ABM arms race to a time when new technologies, changed alliance relationships, and an evolved strategic context would combine to render the effects of widespread missile defense deployments on our nuclear strategy less significant or relevant than would be the case today.

In sum, as we make critical strategic choices over the next few months and years, it is vital to recall that U.S. and Soviet strategic aims and contexts are by no means symmetric ones. Certain key asymmetries--relating to the conventional theater balance, our need to achieve a political consensus for important weapons and strategy choices, and the like--should, in my view, inform our ICBM modernization decisions in the near-term. Based on the discussion presented here, it would seem that the net effect of such considerations would be to support every effort possible to devise an MX basing concept that does not rely on active defense.

GLOSSARY OF ACRONYMS

ABM	Anti-Ballistic Missile
ALCM	Air-Launched Cruise Missile
BMD	Ballistic Missile Defense
CinC	Commander-in-Chief
CNI	Communication of Nuclear Intent
DE	Damage Expectancy
ECM	Electronic Countermeasures
FEBA	Forward Edge of Battle Area
GCI	Ground Control Intercept
HOB	Height of Burst
INF	Intermediate-Range Nuclear Forces
LNO	Limited Nuclear Option
NCA	National Command Authority
NSO	Non-SIOP Option
RNO	Regional Nuclear Option
SACEUR	Supreme Allied Commander, Europe
SEP	Selective Strike Program
SIOP	Single Integrated Operational Plan
SSPK	Single Shot Probability of Kill

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FILME